

FIG. 1 is a schematic diagram of a communication system 100. The system 100 includes a transmitter 110, a receiver 140, and three intermediate transmitters 120, 130, and 140. The transmitter 110 is connected to the receiver 140 via a dashed line. The transmitter 110 is also connected to the transmitter 120 via a dashed line. The transmitter 120 is connected to the transmitter 130 via a dashed line. The transmitter 130 is connected to the receiver 140 via a dashed line. The transmitter 140 is connected to the receiver 140 via a dashed line.

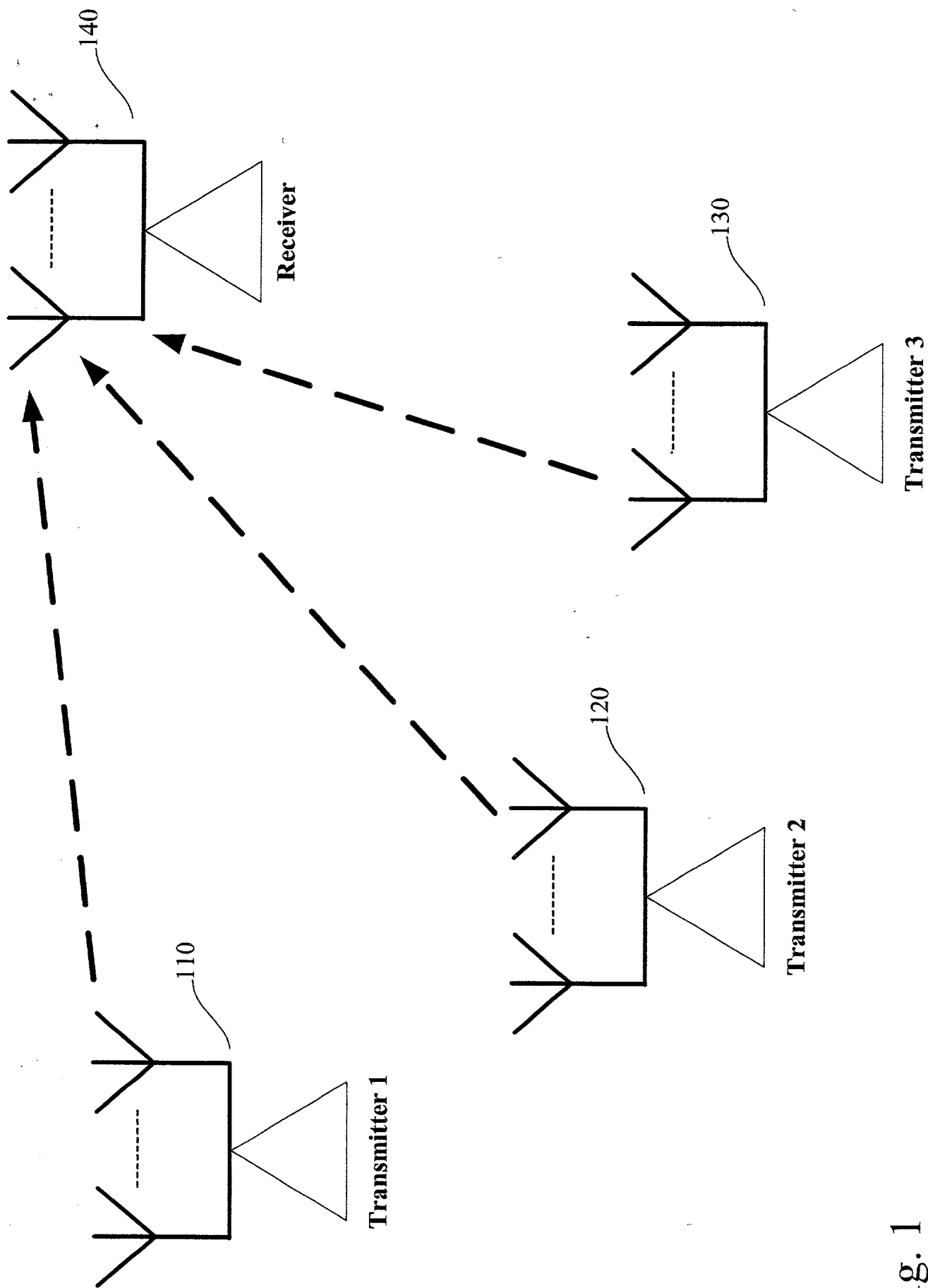


Fig. 1
(Prior Art)

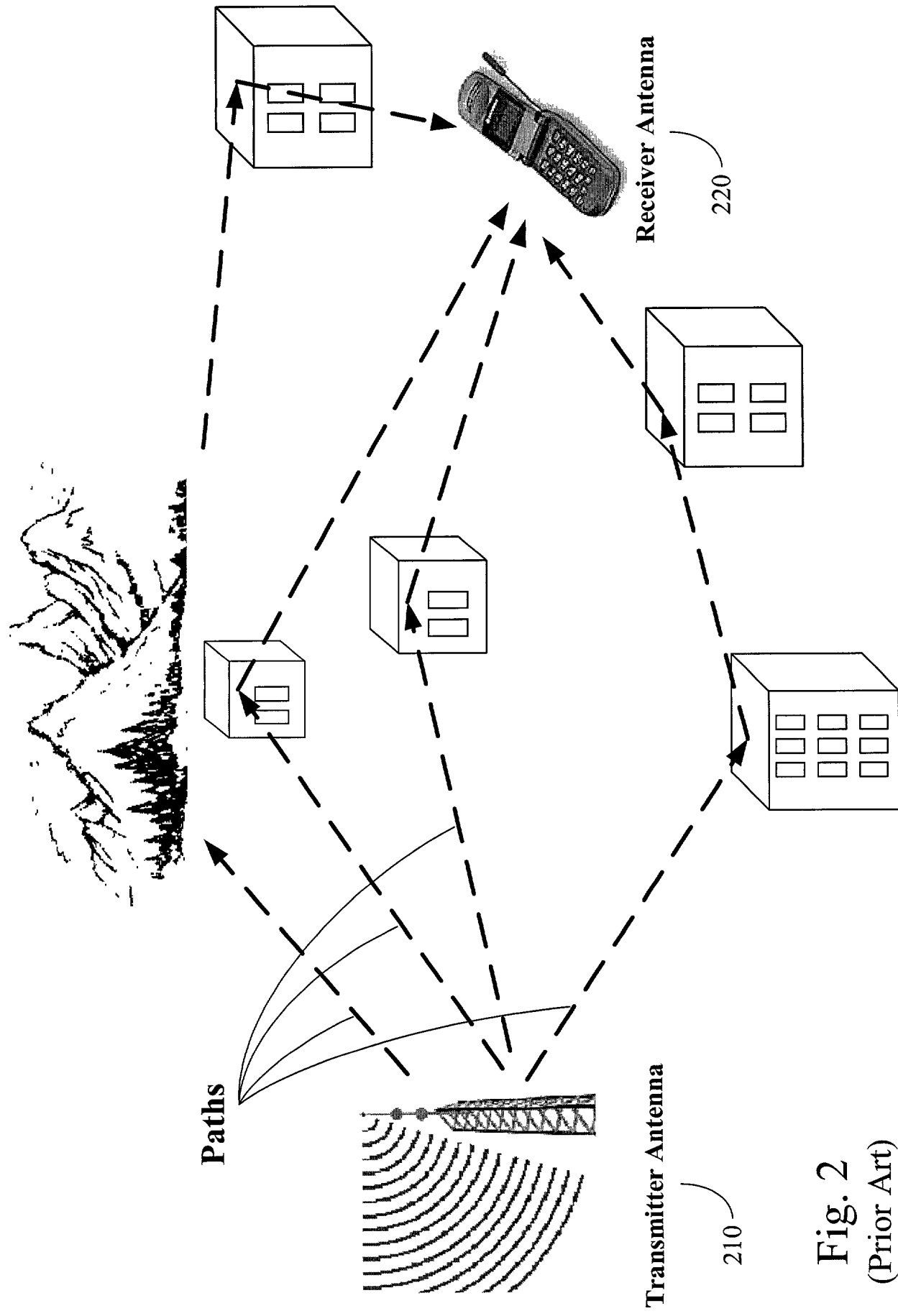


Fig. 2
(Prior Art)

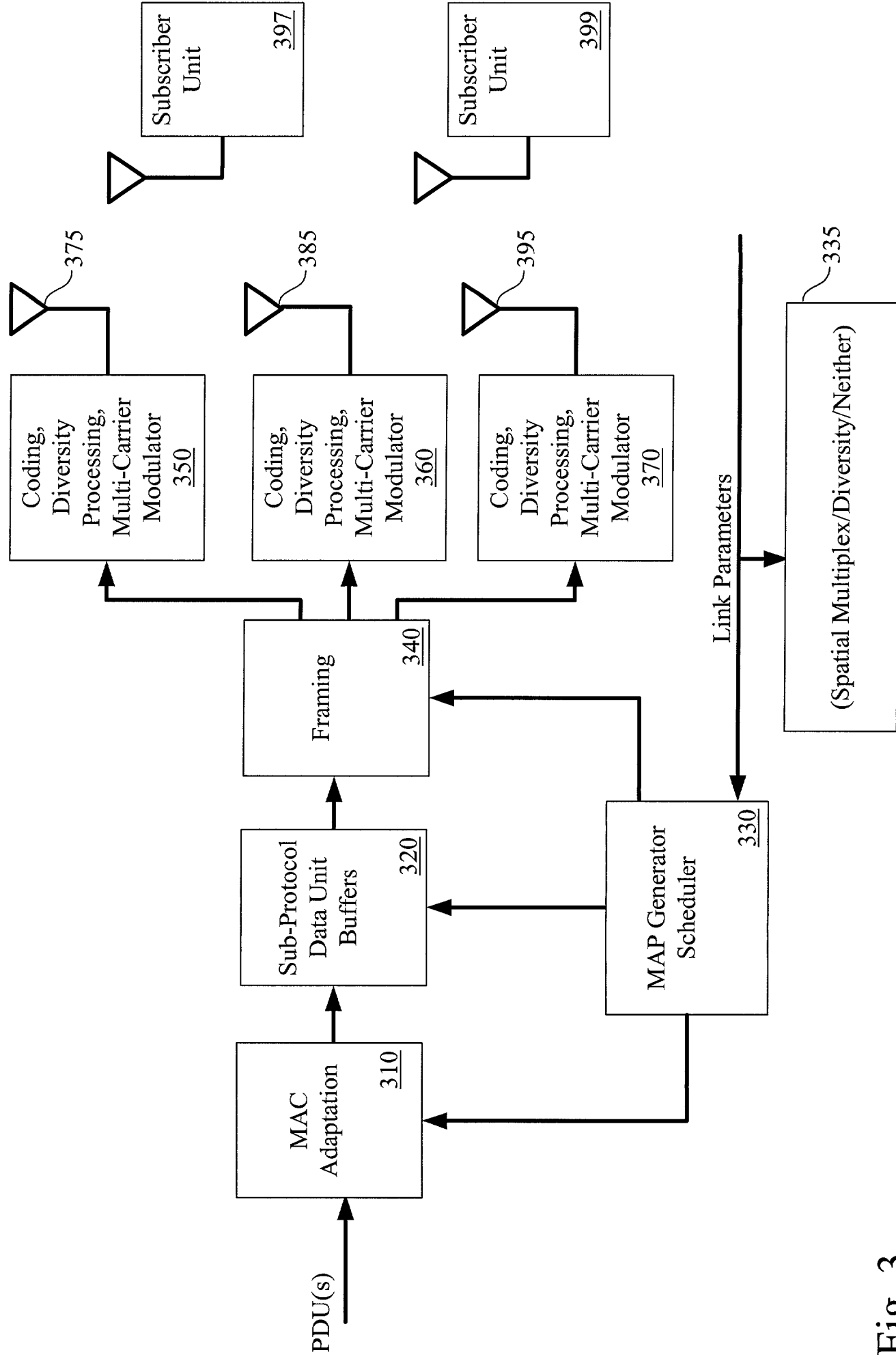


Fig. 3

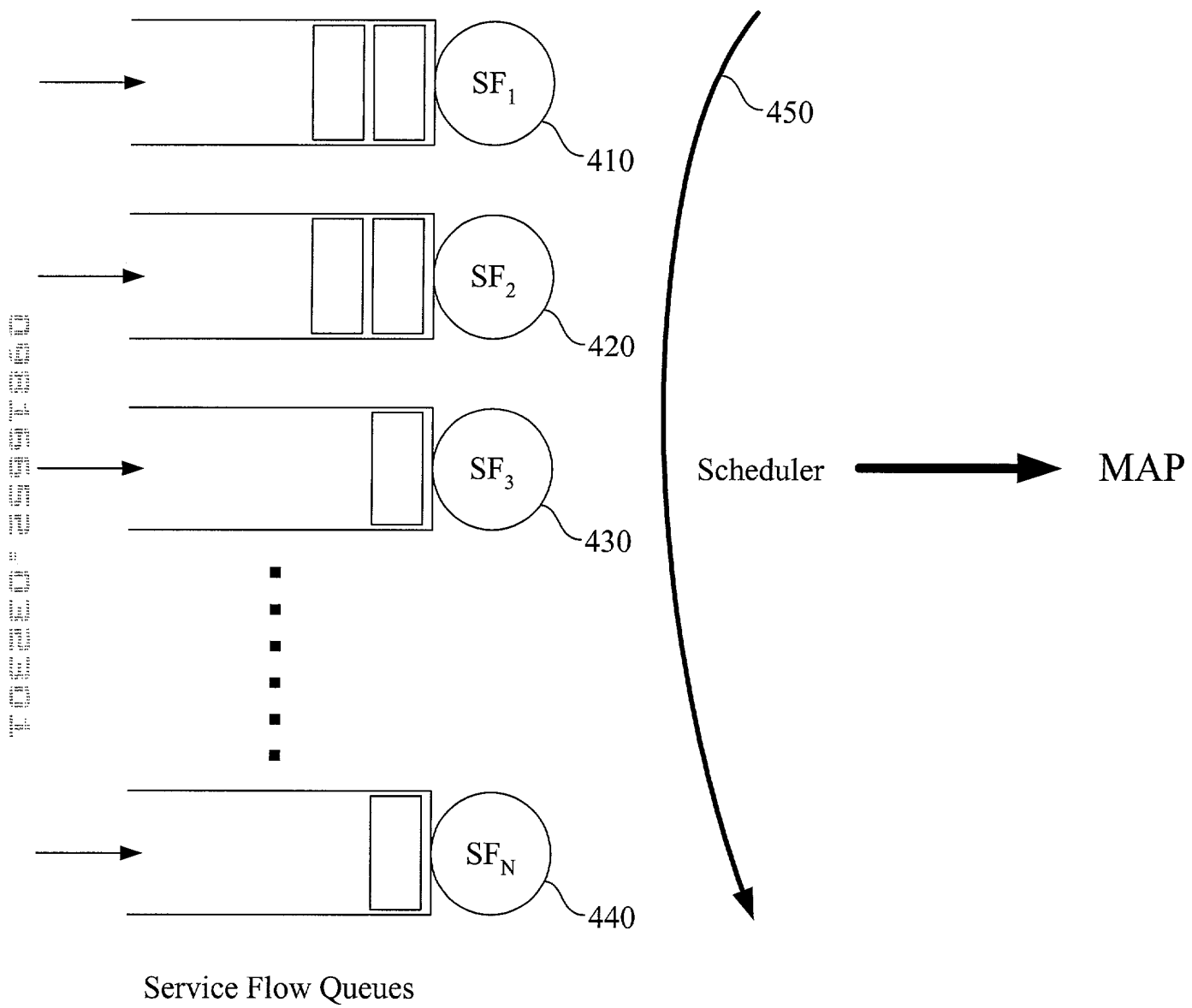


Fig. 4A

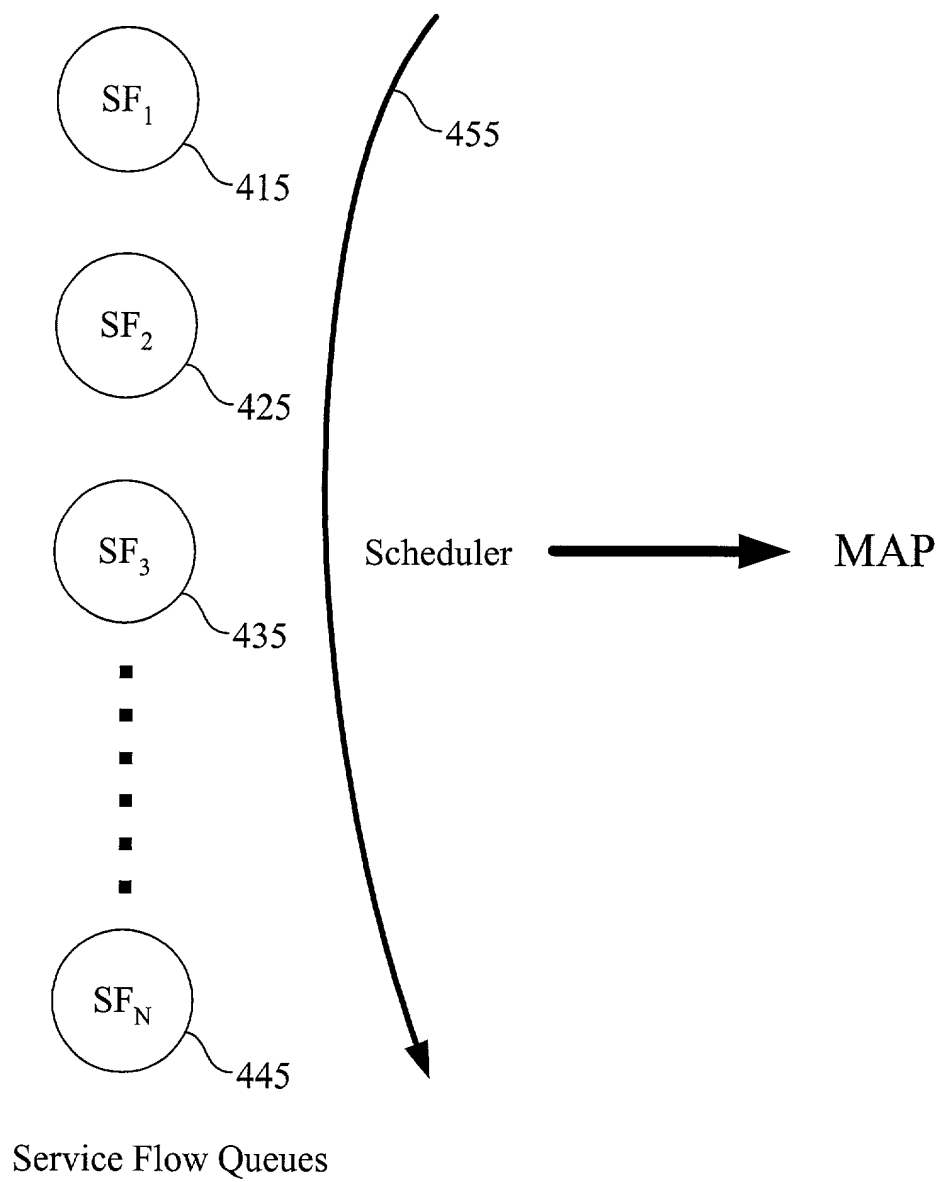


Fig. 4B

www.ijerph.com

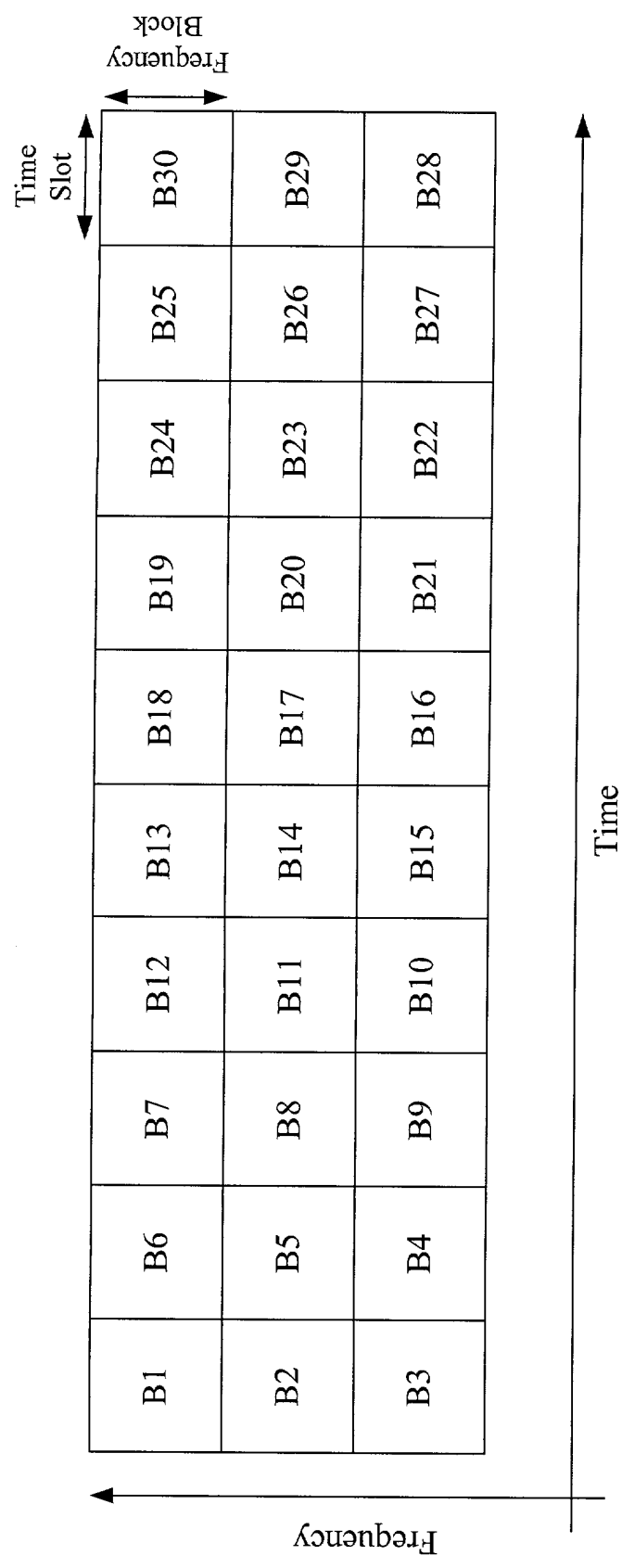


Fig. 5A

SF ID	SF Queue Size	Mode Assignment	Block Weight	System Mode
SF ₁	SFQ ₁	M ₁	BW ₁	SM
SF ₂	SFQ ₂	M ₂	BW ₂	DIV
SF ₃	SFQ ₃	M ₃	BW ₃	Nothing
SF _N	SFQ _N	M _N	BW _N	DIV

Fig. 6

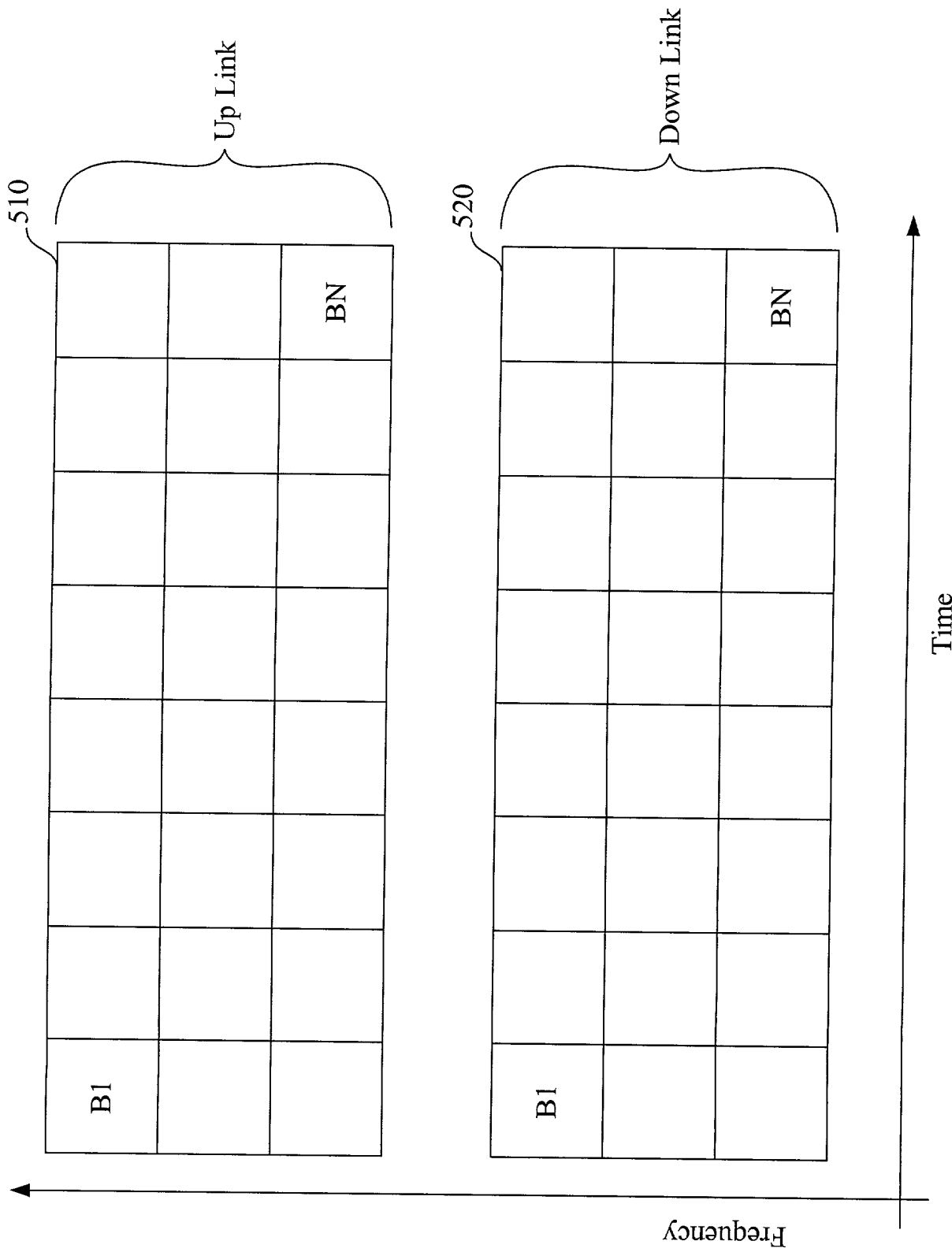


Fig. 5B

FIG. 5C is a diagram illustrating a frequency-time resource allocation for an uplink and a downlink. The diagram shows two sets of resource blocks, 530 and 540, arranged in a grid. The vertical axis is labeled "Frequency" and the horizontal axis is labeled "Time". The uplink resources (530) are shown on the left, and the downlink resources (540) are shown on the right. Each set of resources is divided into blocks labeled B1, B2, ..., BN. The diagram illustrates that the uplink and downlink resources are allocated in a time-division manner, with the uplink resources being allocated first, followed by the downlink resources.

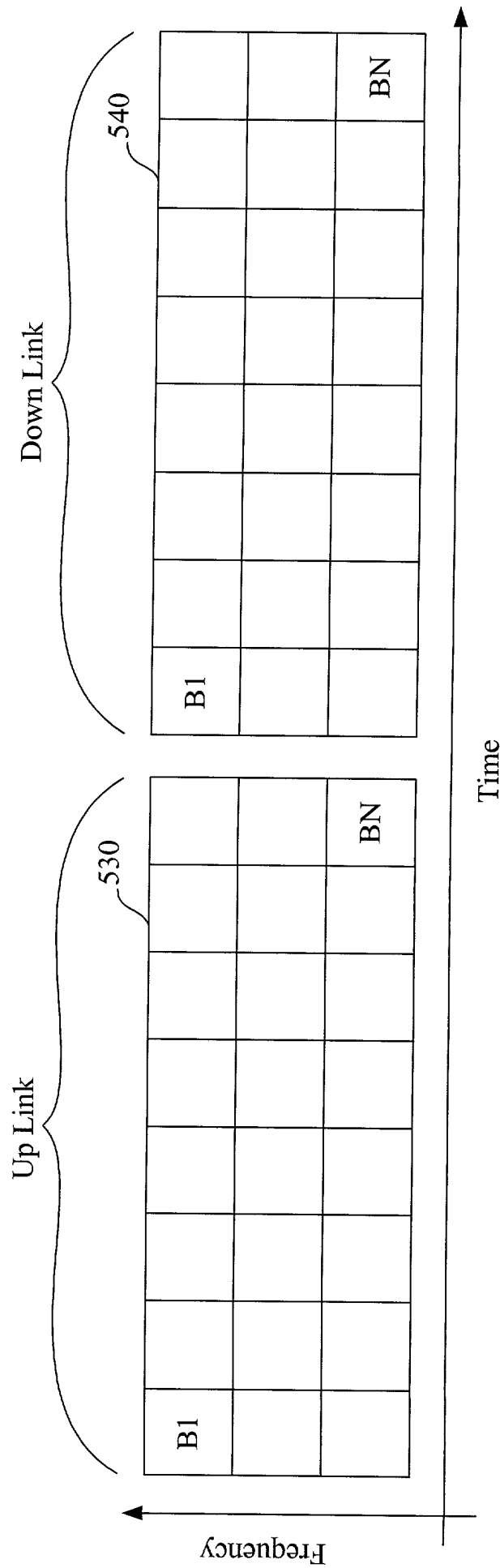


Fig. 5C

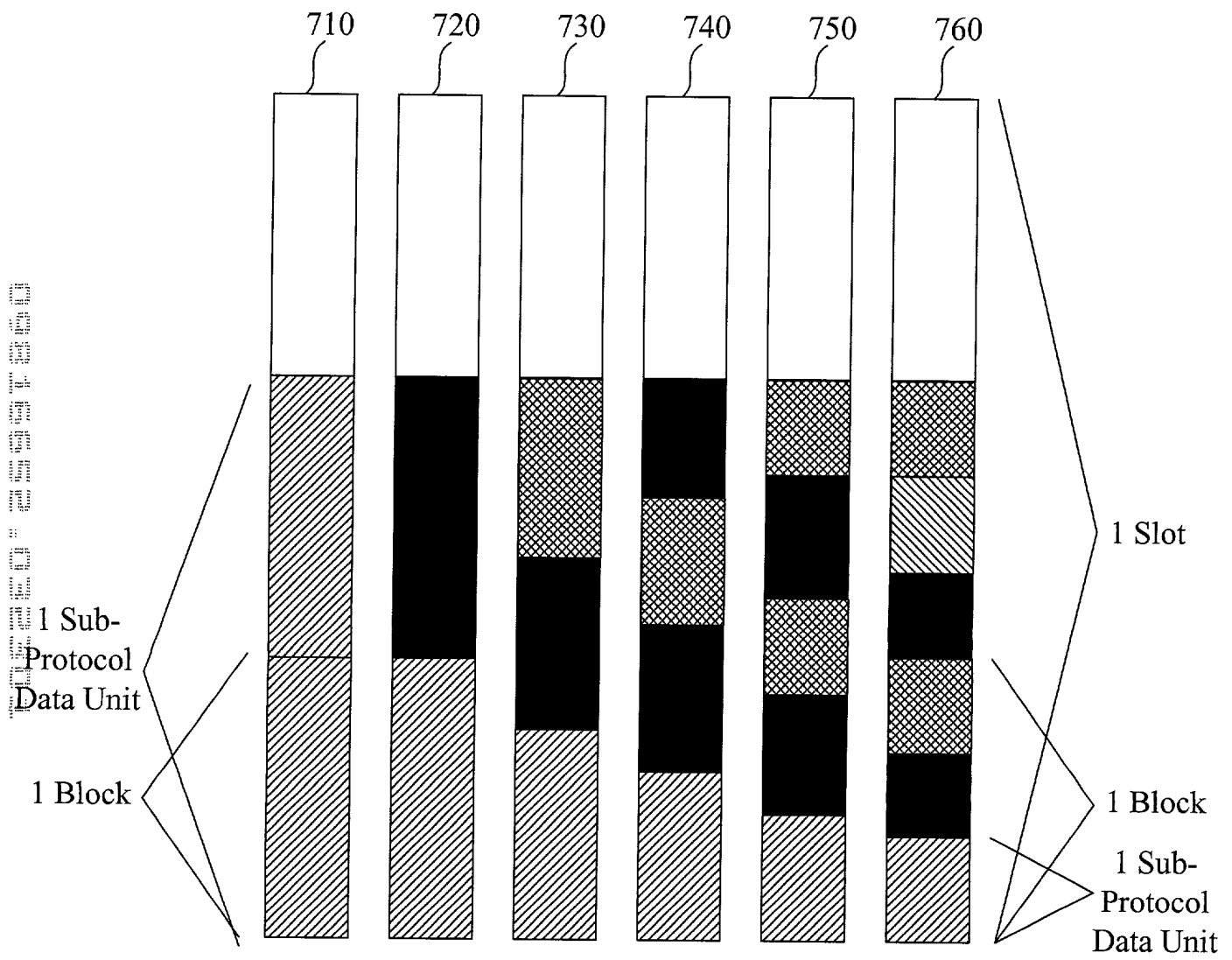


Fig. 7

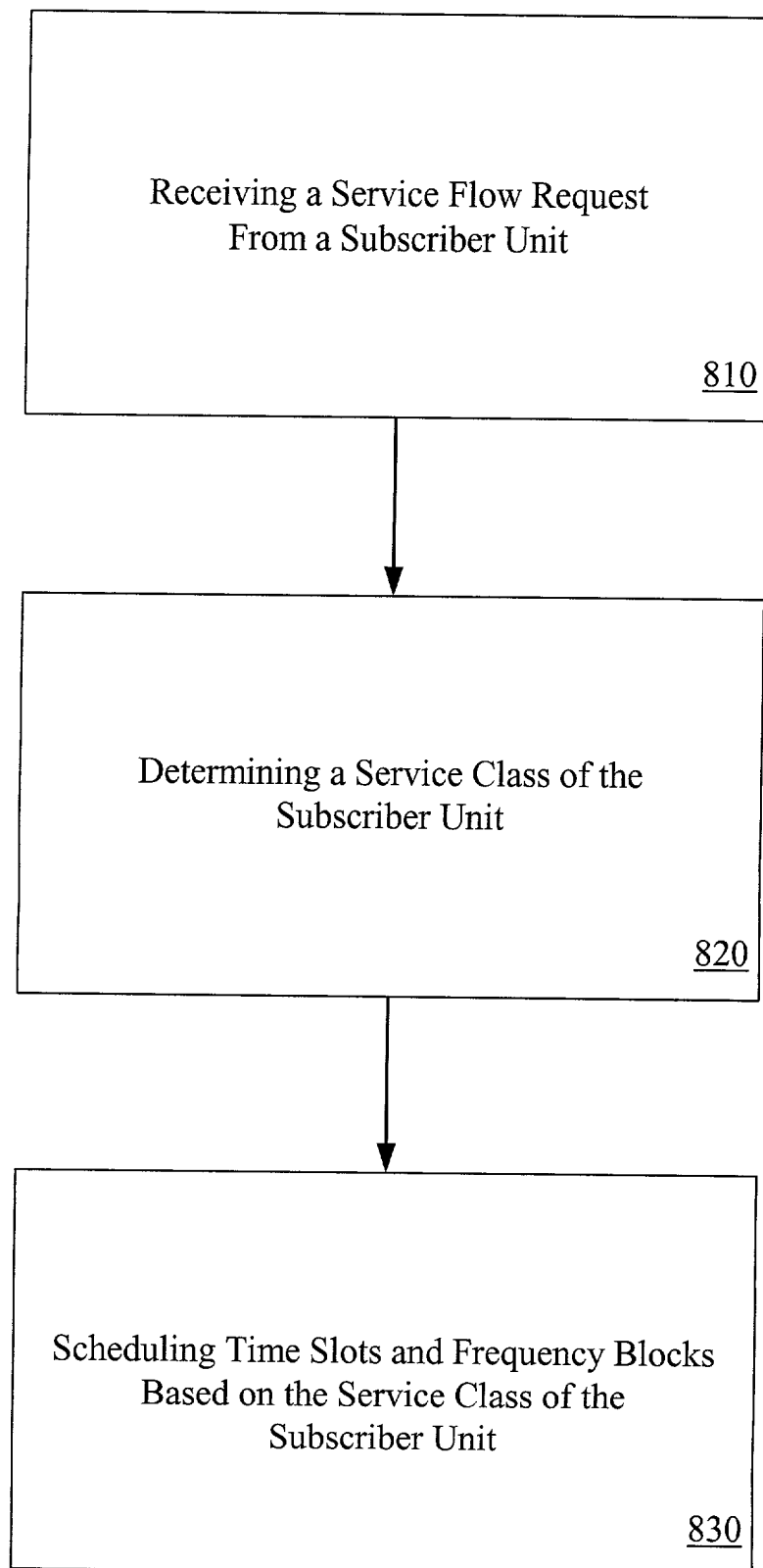


Fig. 8

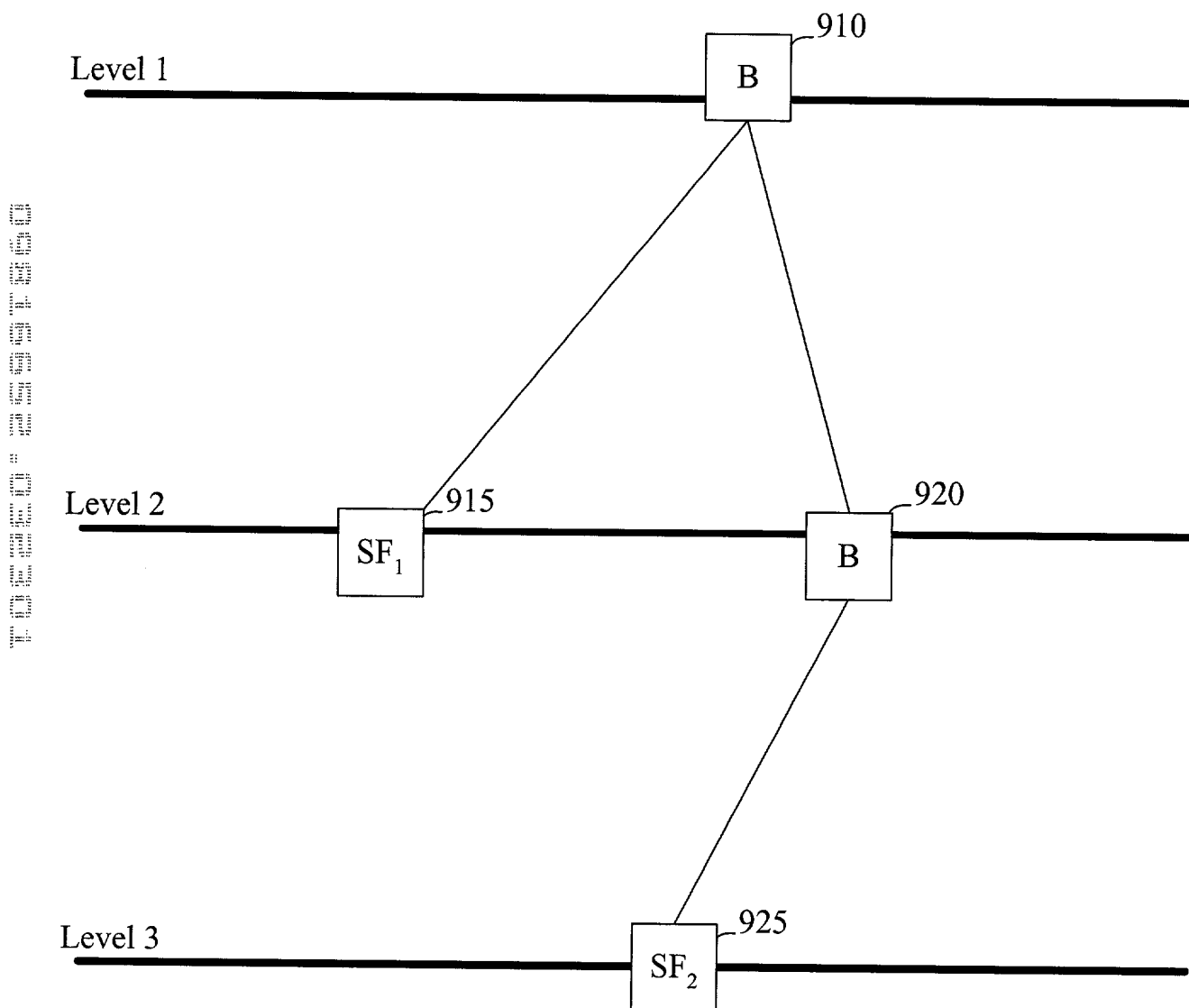


Fig. 9

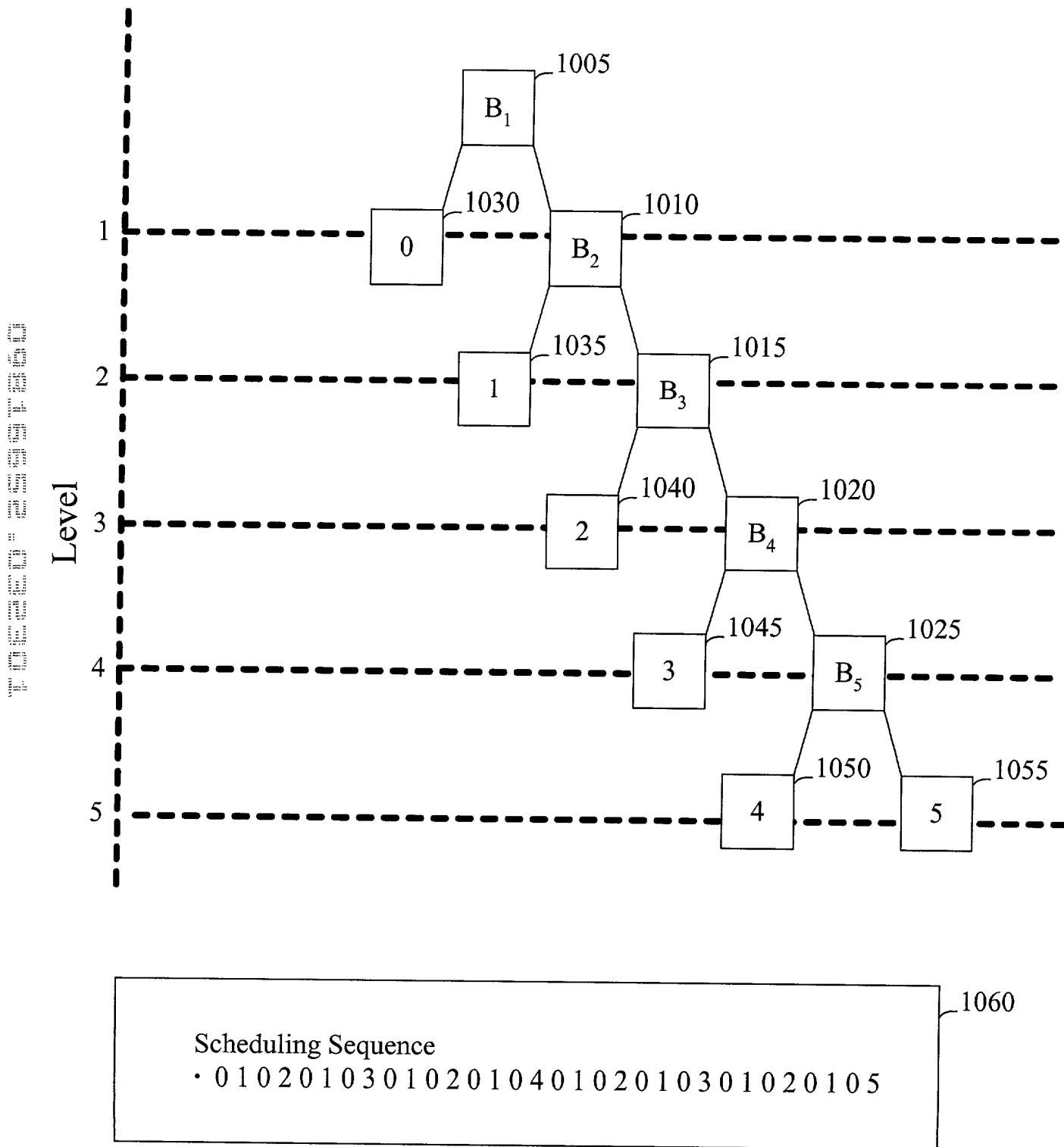


Fig. 10

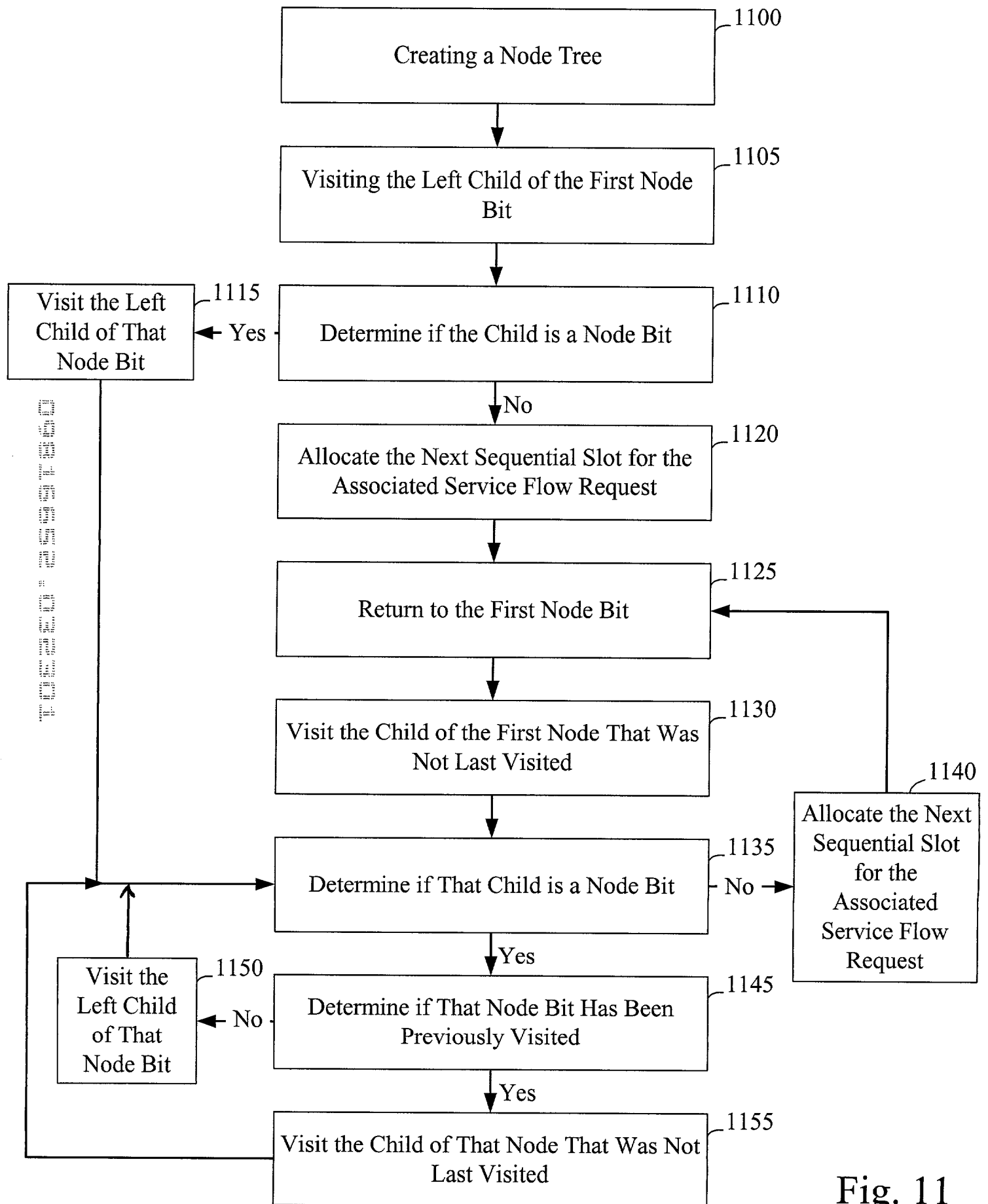


Fig. 11

1200 1205 1210 1215 1220 1225 1230 1235 1240 1245

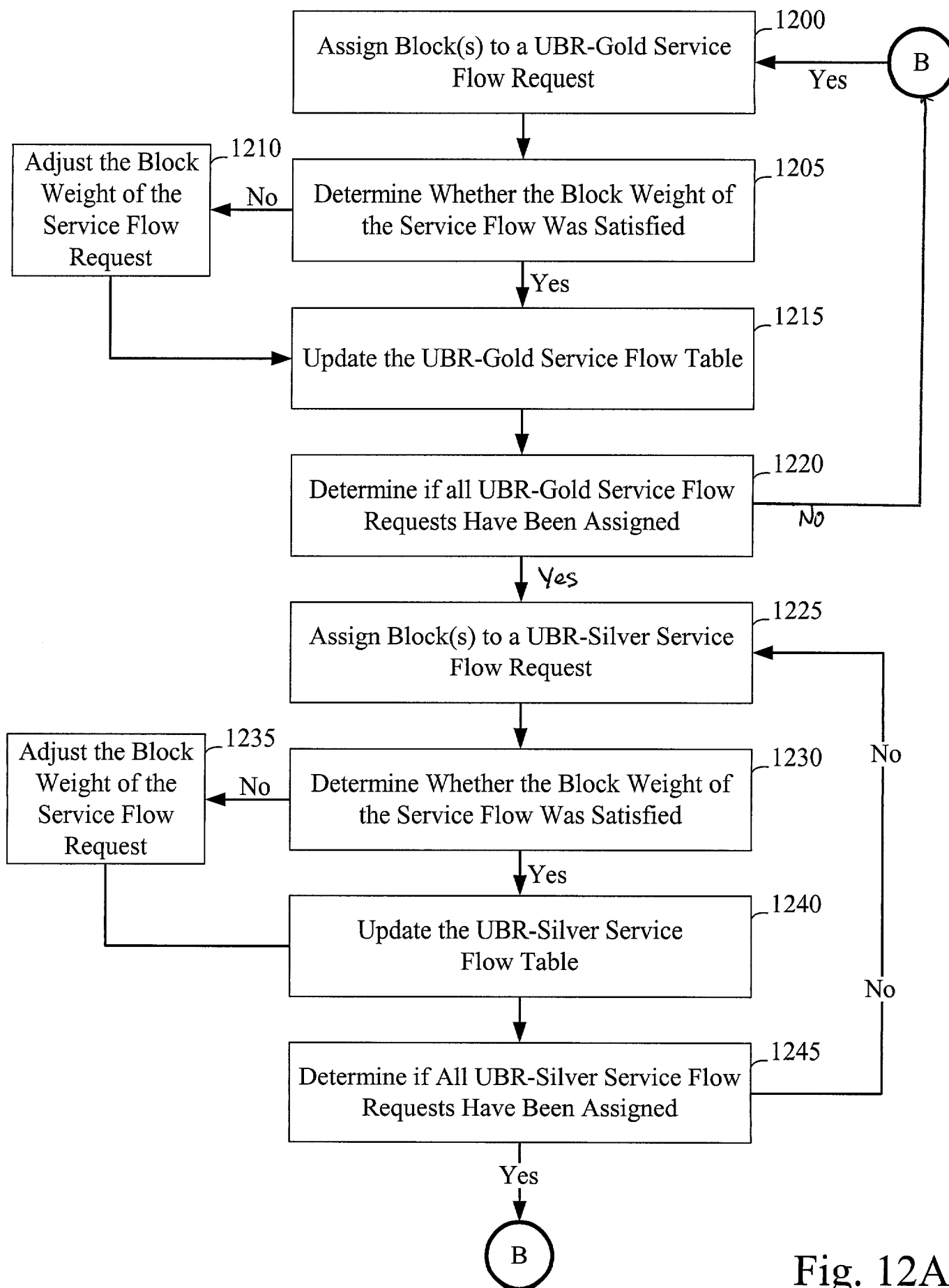


Fig. 12A

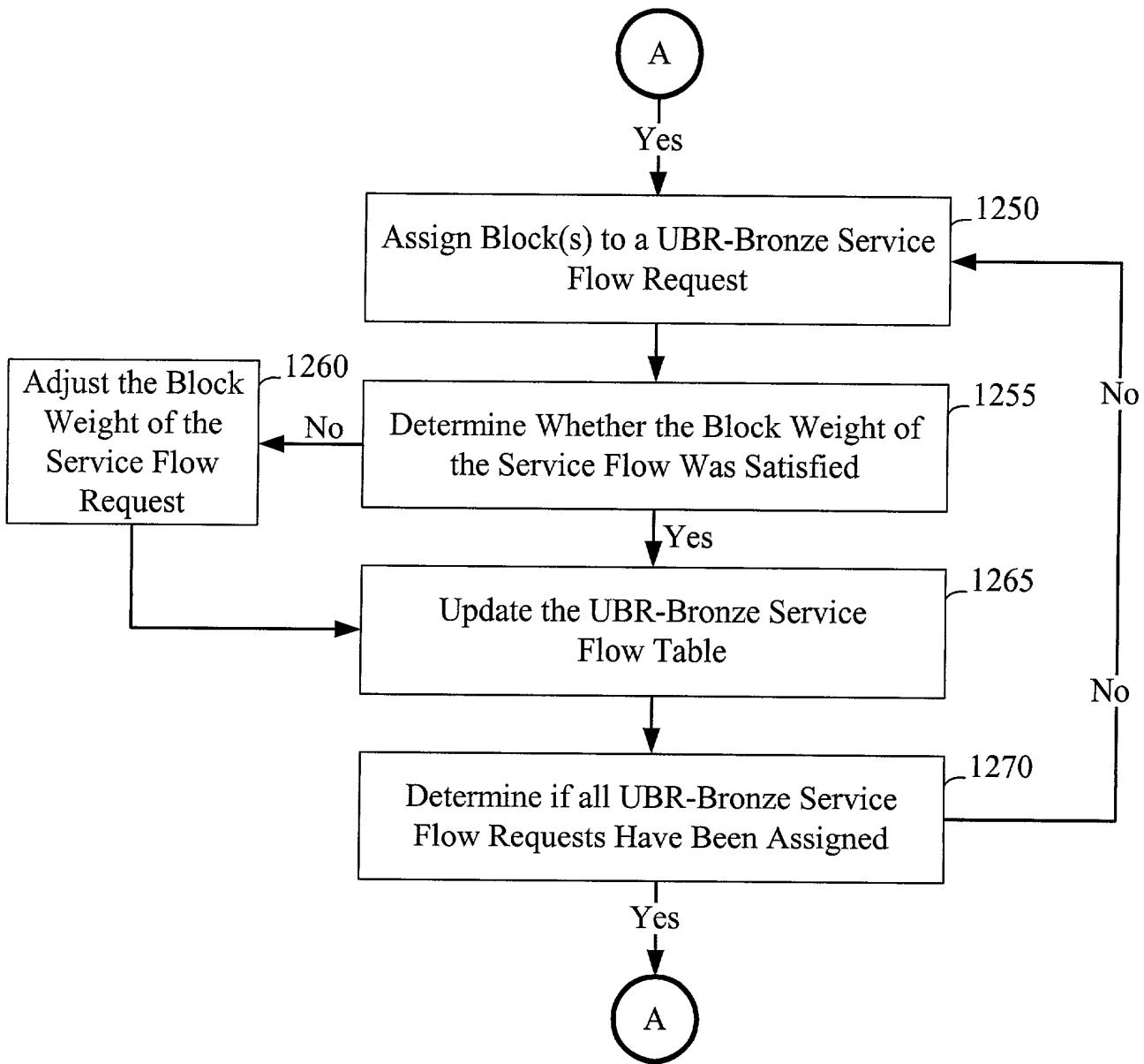


Fig. 12B